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Morphological Study of ABC Triblock Terpolymers SATOSHI AKASAKA, AKIKO MITANI, HIROKAZU HASEGAWA, Department of Polymer Chemistry, Kyoto University, NIKOS HADJICHRISTIDIS, Department of Chemistry, University of Athens — Triblock terpolymers form richer variety of microdomain structures than diblock copolymers. In this study We investigated the microdomain structures in the toluene-cast films of several kinds of ABC triblock terpolymers consisting of polystyrene, polyisoprene and poly(dimethyl siloxane) (PS-*b*-PI-*b*-PDMS) by transmission electron microscopy (TEM). As the result we observed various structures composed of lamellae, cylinders and spheres. In addition, we employed electron tomography to analyze the two complex network-forming structures using their three-dimensional images. Consequently, we found that one of them forms core-shell type double gyroid structure in PS matrix, and the other forms core-shell type single gyroid-like structure in PS matrix.

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